

DOCUMENT-IDENTIFIER: US 6146251 A
TITLE: Polishing method, method of manufacturing an optical device, and a liquid suspension used for polishing

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DEPR:

Further, also different depending on the kind, the shape and the size of the materials to be polished, it is desirable in the present invention that the fine powder of silicon oxide is dispersed in an amount from 1% by weight to 10% by weight based on the liquid lubricant of saturated hydrocarbon described above. More preferably, it is from 3% by weight to 7% by weight and, particularly, from 4% by weight to 5% by weight. This can be confirmed from the graph in FIG. 2 showing the change of the surface roughness (surface roughness relative to .beta.-BBO crystals) depending on the dispersion concentration of the fine powder of silicon oxide.

DEPR:

If the dispersion concentration of the fine silicon oxide powder is less than 1% by weight, the mirror polishing can not be conducted thoroughly. On the other hand, if the dispersion concentration exceeds 10% by weight, the liquid suspension used for polishing tends to gel and is no more suitable to spraying.

DOCUMENT-IDENTIFIER: US 5753051 A
TITLE: Oriented electrical steel sheet having low core loss
and method of
manufacturing same

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BSFR:

The pH of the sol is adjusted to be not more than 6.5 or not less than 8.0, which has the above-described effect of causing particles to be mutually repelled by electrostatic force. The isoelectric point of ceramic precursor particles (the point at which the particle surface charge becomes zero) is usually in the neutral region. Therefore adjusting the pH to 6.5 or less causes negatively charged anions to adhere to the surface of positively charged particles, forming double electrical layers that are in a mutually-repelling steady state. However, by maintaining the sol at a pH of not less than 8, a stable dispersion can be obtained with particles such as silicon oxide in which the isoelectric point is at a pH region of around 2. A sol pH that is outside these limits reduces particle repulsion, making it difficult to obtain a high concentration sol. In addition it causes particles to coagulate, and during the gel drying process the force of this coagulation acting parallel to the coating surface causes cracking and results in a non-uniform coating. A pH that is very high or very low can cause oxidation of the steel sheet during the application and baking of the sol, so a pH of 2 to 5.5 or 8.0 to 12.5, is preferable.